

Decision Record

Environmental Assessment (EA) for Grazing Authorization, DOI-BLM-NM-P010-2013-464-EA

Decision: It is my decision to authorize and implement the Proposed Action as described in DOI-BLM-NM-P010-2013-464-EA. The proposed action will authorize a grazing permit on Erramouspe allotment, #63087 for 6 Animal Units at 100% Federal Range for 72 Animal Unit Months (AUM's) active use and the Youngblood Well allotment, #63187 for 2 Animal Units at 100% Federal Range for 24 Animal Unit Months (AUM's) active use. The mitigation measures identified in the attached EA have been formulated into terms and conditions that will be attached to the grazing permit. This decision incorporates, by reference, those conditions identified in the attached Environmental Assessment. A summary table follows:

Allot Number	Allotment Name	Acres of Public Land	Percent Public Land	Animal Units Authorized	Animal Unit Months Authorized	Permitted Animal Units	Permitted Animal Unit Months
63087	Erramouspe	400	100	6	72	6	72
63187	Youngblood Well	120	100	2	24	2	24

Rationale: Based on the rangeland health assessment (RHA) and previous monitoring, resource conditions on this allotment are sufficient and sustainable to support the level of use outlined in the ten-year grazing permit.

If you wish to protest this proposed decision in accordance with 43 CFR 4160.2, you are allowed 15 days to do so in person or in writing to the authorized officer, after the receipt of this decision. Please be specific in your points of protest. The protest shall be filed with the Field Manager, Bureau of Land Management, 2909 West 2nd, Roswell, NM 88201. This protest should specify, clearly and concisely, why you think the proposed action is in error.

In the absence of a protest within the time allowed, the above decision shall constitute my final decision. Should this notice become the final decision, you are allowed an additional 30 days within which to file an appeal for the purpose of a hearing before the Interior Board of Land Appeals, and to petition for stay of the decision pending final determination on the appeal (43 CFR 4.21 and 4.410). If a petition for stay is not requested and granted, the decision will be put into effect following the 30-day appeal period. The appeal and petition for stay should be filed with the Field Manager at the above address. The appeal should specify, clearly and concisely, why you think the decision is in error. The petition for stay should specify how you will be harmed if the stay is not granted.

/s/ Jerry Dutchover
Jerry Dutchover
Assistant Field Manager, Resource

08/07/2013
Date

FINDING OF NO SIGNIFICANT IMPACT:

I have determined that the BLM Preferred Alternative (Alternative A), as described in the Environmental Assessment (EA) will not have any significant impact, individually or cumulatively, on the quality of the human environment. Because there would not be any significant impact, an environmental impact statement is not required. The NEPA handbook (p. 83) indicates that the FINDING OF NO SIGNIFICANT IMPACT (FONSI) must succinctly state the reasons for deciding that the action will have no significant environmental effects. It also recommends that the FONSI address the relevant context and intensity factors.

In making this determination, I considered the following factors:

1. The activities described in the BLM Preferred Alternative (Alternative A) do not include any significant beneficial or adverse impacts (40 CFR 1508.27(b)(1)). The EA includes a description of the expected environmental consequences of issuing a 10 year term grazing permit on Allotments 63087 & 63187.
2. The activities included in the proposed action would not significantly affect public health or safety (40 CFR 1508.27(b)(2)).
3. The proposed activities would not significantly affect any unique characteristics (40 CFR 1508.27(b)(3)) of the geographic area such as prime and unique farmlands, caves, wild and scenic rivers, designated wilderness areas or wilderness study areas.
4. The activities described in the proposed action do not involve effects on the human environment that are likely to be highly controversial (40 CFR 1508.27(b)(4)).
5. The activities described in the proposed action do not involve effects that are highly uncertain or involve unique or unknown risks (40 CFR 1508.27(b)(5)).
6. My decision to implement these activities does not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration (40 CFR 1508.27(b)(6)).
7. The effects of issuing a ten year permit would not be significant, individually or cumulatively, when considered with the effects of other actions (40 CFR 1508.27(b)(7)). The EA discloses that there are no other connected or cumulative actions that would cause significant cumulative impacts.
8. I have determined that the activities described in the proposed action will not adversely affect or cause loss or destruction of scientific, cultural, or historical resources, including those listed in or eligible for listing in the National Register of Historic Places (40 CFR 1508.27(b)(8)). Cultural resource surveys in the allotment have been generally limited to inspections ahead of oil and gas related activities, such as well locations and pipelines. Many areas of the allotment have been generally inventoried for cultural resources. The existing cultural data for the allotment and adjacent areas seems to be a good example of what can be reasonably expected to occur in the remainder of the allotment. No site-specific situations are known to exist where current grazing practices conflict with cultural resource preservation and management. Some mitigation is included in the proposed

action to protect cultural resources from grazing practices, such as: “In the event that grazing practices are determined to have an adverse effect on cultural resources within the allotment, the BLM, in consultation with the permittee, will take action(s) to mitigate or otherwise negate the effects. This may include but is not limited to installing physical barriers to protect the affected cultural resources, relocating the livestock grazing practice(s) that is (are) causing the adverse effect(s), or any other treatment as appropriate. Pages 18-19 of the EA describe the affected environment and impacts of the proposed action and alternatives on cultural resources.

9. The proposed activities are not likely to adversely affect any endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (40 CFR 1508.27(b)(9)). Within the allotment there are no known populations of threatened and endangered species, or designated critical habitat within the allotment.

10. The proposed activities will not threaten any violation of Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(10)). Page 3 of the EA describes the conformance with land use plans and relationships to statutes, regulations, or other plans.

APPROVED:

/s/ Jerry Dutchover

Jerry Dutchover

Assistant Field Manager, Resources

07/30/2013

Date

ENVIRONMENTAL ASSESSMENT

GRAZING AUTHORIZATION

For

ALLOTMENT

63087, Erramouspe

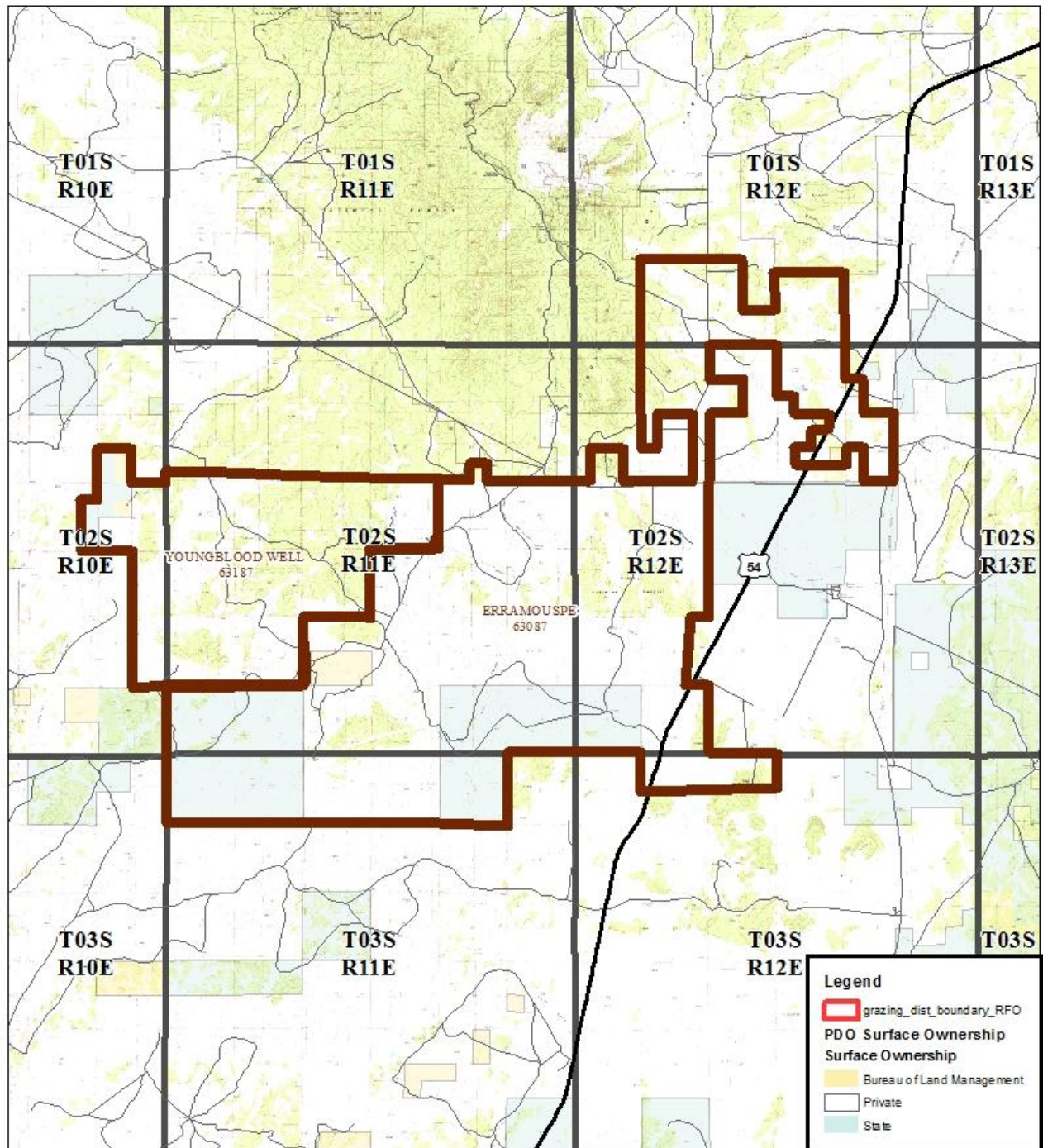
63187, Youngblood Well

DOI-BLM-NM-P010-2013-464-EA

June, 2013

U.S. Department of the Interior
Bureau of Land Management
Roswell Field Office
Roswell, New Mexico

Erramouspe, 63087
Youngblood Well, 63187



No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data, or for purposes not intended by the BLM. Spatial information may not meet National Map Accuracy Standards. This information is subject to change without notification.



I. BACKGROUND

Purpose and Need for the Proposed Action

The purpose of issuing a new grazing permit would be to authorize livestock grazing on public range on the Erramouspe allotment, #63087, and Youngblood Well allotment, #63187. When authorizing livestock grazing on public range, the Bureau of Land Management (BLM) must conduct a site-specific NEPA analysis before issuing a permit to authorize livestock grazing. This environmental assessment fulfills the NEPA requirement by providing the necessary site-specific analysis of the effects of issuing a new grazing permit on this allotment. The permit would be needed to specify the types and levels of use authorized, and the terms and conditions of the authorization pursuant to 43 CFR §§4130.3, 4130.3-1, 4130.3-2, and 4180.1.

The scope of this environmental assessment is limited to the effects of issuing a new grazing permit on this allotment. Over time, the need could arise for subsequent management activities which relate to grazing authorization. These activities could include vegetation treatments (e.g., prescribed fires, herbicide projects), range improvement projects (e.g., fences, water developments), and others. Future rangeland management actions related to livestock grazing would be addressed in project-specific NEPA documents as they are proposed.

Though this environmental assessment specifically addresses the impacts of issuing a grazing permit on this allotment, it does so within the context of overall BLM management goals. Allotment management activities would have to be coordinated with projects intended to achieve those other goals. For example, a vegetation treatment designed to enhance watershed condition or wildlife habitat may require rest from livestock grazing for one or more growing seasons. Requirements of this type would be written into the lease as terms and conditions.

Conformance with Land Use Planning

The proposed action conforms to the 1997 Roswell Approved Resource Management Plan (RMP) and Record of Decision; the 2000 New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management and Record of Decision and the 2008 Special Status Species Resource Management Plan Amendment as required by 43 CFR 1610.5-3.

Relationships to Statutes, Regulations, or Other Plans

The proposal to renew the livestock grazing permit on this allotment is in conformance with the 1994 Environmental Impact Statement for Rangeland Reform; the Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C. 1700 et seq.); the Taylor Grazing Act of 1934 (TGA) (43 U.S.C. 315 et seq.); the Public Rangelands Improvement Act of 1978 (PRIA) (43 U.S.C. 1901 et seq.).

II. PROPOSED ACTION AND ALTERNATIVES

Proposed Action - Current Livestock Management

The proposed action is to issue a term permit to graze cattle and horses on these allotments. Current permitted use is based on long term monitoring and rangeland conditions. Additionally a rangeland

health assessment has been completed and the allotments met the Standards for Public Land Health. See Table 1 below for details of these allotments. There would be no changes from current livestock management as conducted by the permittee, or to existing range improvements already in place. Future projects or activities identified by the permittee or the BLM can still be considered for implementation. Rangeland monitoring would continue on the allotment and changes to livestock management would be made as necessary. If new information surfaces that livestock grazing is negatively impacting other resources, action will be taken to mitigate those impacts.

Table 1. Animal Units/Animal Unit Months							
Allot Number	Allotment Name	Acres of Public Land	Percent Public Land	Animal Units Authorized	Animal Unit Months Authorized	Permitted Animal Units	Permitted Animal Unit Months
63087	Erramouspe	400	100	6	72	6	72
63187	Youngblood Well	120	100	2	24	2	24

No Grazing Alternative

Under this alternative a new grazing permit would not be issued for these allotments. No grazing would be authorized on federal land on this allotment under this alternative. Under this alternative and based on the land status pattern within the allotment, new fences would be required to exclude grazing on the federal land.

Alternatives Considered But Not Analyzed

Grazing with reduced numbers – BLM considered authorizing grazing with reduced numbers on this allotment. Grazing with reduced numbers would produce impacts similar to the proposed action. Additionally, this allotment meets the Standard for Public Land Health and monitoring studies do not indicate changes are necessary. Therefore, BLM will not analyze this alternative.

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

General Setting

These allotments are located in Lincoln County, approximately 13 miles southwest of Corona, NM. Elevation ranges from about 6,000 feet to 6,800 feet. The climate is semi-arid with normal annual temperatures ranging from 20⁰F to 95⁰F at Bitter Lake National Wildlife Refuge. Average annual precipitation is approximately 13-16 inches, primarily as rainfall. Annual precipitation has ranged from 3.11 inches to 21.08 inches.

Affected Resources

The following resources or values are not present or would not be affected by the authorization of livestock grazing on these allotments: Cultural Resources, Native American Religious Concerns, Floodplains, Prime or Unique Farmland, Minority/Low Income Populations, Hazardous or Solid Wastes, Wild and Scenic Rivers, and Wilderness. Cultural resources are not usually adversely

affected by livestock grazing, although concentrated livestock activity such as around livestock water troughs can have adverse effects on the cultural resource. Prior to authorizing range improvements, a Class III Cultural Survey must be completed ensuring cultural resources will not be affected. There are several known cultural resources within the allotment. Controlled livestock grazing effect on cultural resources is limited within the allotment due to the type of cultural resources present.

Vegetation

Affected Environment

The allotments are comprised of several vegetation community types arranged in a mosaic over the allotments. Grassland and Pinon-Juniper communities dominate. There are small inclusions of the Drainages, Draws and Canyons (DDC) associated with the draws running through the allotments. General objectives or guidelines for each vegetation community are described in the Roswell Approved RMP and Record of Decision (BLM 1997) and the Roswell Draft RMP/EIS (BLM 1994). The pinon/juniper community type is typically found in the mountain slopes and rolling foothills in the west half of the resource area. Smaller areas are scattered in the lower elevations, intermingled with the shortgrass habitat type. Slopes range from 15 to 75 percent, averaging 20 to 30 percent. The average elevation is from 4,500 feet to 7,500 feet.

The overstory is dominated by oneseed juniper, pinon pine, and alligator juniper. Ponderosa pine can be found in protected canyons bottoms and along the Rio Bonito. The shrubby understory includes wavyleaf oak, little leaf sumac, mountain mahogany, algerita and fourwing saltbush. Forbs and grasses are represented by such species as wild buckwheat, sagewort, greenthread, sideoats grama, blue grama, creeping muhly, wolftail, fescue and wheatgrass.

Grass hills are found primarily on hills, low mountains, or lower foot slopes of higher mountains. Slopes are rolling to steep and average about 25 percent. Elevations range from 4500 feet to 6000 feet. Short- and mid-grasses dominate this subtype, including hairy grama, fluffgrass, three-awn, and red lovegrass. Shrubs, halfshrubs and cacti include little leaf sumac, beargrass, ocotillo, hedgehog cactus, cholla and broom snakeweed. The structured diversity of the vegetation in this subtype provides more diverse bird nesting habitat than adjacent grasslands. This is the preferred habitat for mule deer, which also use the brushy draws for browse and cover.

The Rangeland Health Assessments indicate a slight problem with invasive plants, most notably cholla, algerita, gambels oak, pinon, and juniper. Cholla and yucca dominate the Gravelly ecological site and affect both the plant community and hydrologic functions of this site. Copies of the Rangeland Health Assessment and the analysis of the data are available at the Roswell Field Office.

Rangeland monitoring studies have been established in key areas within the allotments. Table 2 below lists the key areas, identified by the vegetation ID number, within each allotment as well as the ecological site associated with each key area. These permanent sites are used to track vegetation changes and to determine proper stocking rates.

TABLE 2					
Allotment Number	Allotment Name	RHA Completion Year	Meets/ Does not Meet	Site Name	Ecological Site
63087	Erramouspe	2009	Meets	131	Shallow CP-3

The description for these ecological sites was developed by the Soil Conservation Service (now referred to as the National Resource Conservation Service) in their ecological site guides. Ecological site descriptions are available for review at the Roswell BLM office, any Natural Resources Conservation Service office or accessed at <http://www.nm.nrcs.usda.gov>.

From 1978 to 1999 agencies were using the traditional range condition methodology to depict range condition. This compared collected rangeland monitoring information with the potential vegetation community in terms of species composition by weight. The rating is based on a scaled of 0 to 100 with 100 being the actual representative site.

In 1999, the National Resource Conservation Service (NRCS) revised the methodology for comparing the existing vegetation community with the potential vegetation community and to aid in the determination of ecological condition. This methodology is called the Similarity Index (SI). The BLM is currently incorporating this revision into the monitoring and evaluation processes. The SI compares existing vegetation data (collected from rangeland monitoring) with the potential vegetation community described in the NRCS ecological site guide for that site. The index is based on a scaled of 0 to 100 with 100 being the actual representative site. For example, the Sandy SD-3 ecological (range) site, the normal year production is about 900 pounds per acre. The index takes into account vegetation species present and the relative amount of production for each species when compared to the potential for the range site.

The Roswell Field Office is currently in the process of integrating the revised methodology into current monitoring and evaluation processes. The traditional range condition rating method (used from 1980 to 1998) is retained for comparison purposes. The percent bare ground and rock found on the allotment fall within the parameters established by the RMP/EIS for this vegetative community. Copies of the monitoring data and the analysis of the data are available at the Roswell Field Office.

Rangeland Health Assessment data has been collected in fiscal year 2012. Analysis of the rangeland health assessments indicates that all three indicators (biotic, hydrology, and soils) have been met for the allotments. For a more detailed analysis please refer to the actual data sheets located at the Roswell Field Office. The long term vegetative production, ground cover and trend data for these allotments are also available at the Roswell Field Office.

Noxious and Invasive Weeds: Noxious weeds affect both crops and native plant species in the same way, by out-competing for light, water and soil nutrients. Losses are attributed to decreased quality

and quantity of agricultural products due to high levels of competition from noxious weeds and infestations. Noxious weeds can negatively affect livestock productivity by making forage unpalatable to livestock thus decreasing livestock productivity and potentially increasing producer's feed costs. Potential noxious weed species include musk thistle and Russian knapweed. There are some known and identified populations of noxious weeds on the allotments, and are treated annually.

Environmental Impacts

Under the Proposed Action the vegetation in the Grassland community will continue to be grazed and trampled by domestic livestock as well as other herbivores. The area has been grazed by livestock since the early part of the 1900's, if not longer. Ecological condition and trend is expected to remain stable and/or improve over the long term at the permitted number of livestock.

Upland sites would reflect a static ecological condition trend at the existing permit level. Some grassland areas would remain static due to the high composition of mesquite. In the long term, upland vegetation would continue to improve in all pastures from the implementation of a rest-rotation system.

Range monitoring data indicate that the vegetation is sustainable to meet multiple resource requirements and forage at the permitted use level under the Proposed Action. Data indicate that livestock grazing is compatible with vegetation cover and composition objectives. In addition to the upward trend in ecological condition, monitoring data show the vegetative resources have been improved and sustained since monitoring began in 1981.

Under the No Action Alternative, no new impacts to vegetation would occur on public lands from authorized livestock grazing. The permitted use as described in the proposed action is not anticipated to have any adverse impacts to the current vegetation conditions.

Under the No Grazing Alternative, no impacts to vegetation resources would occur on public lands from authorized livestock grazing. Vegetation cover (outside the OHV area) would increase over the long term in some areas. Grasslands in the uplands would increase in cover and composition, but composition would be tempered by mesquite somewhat dominating the shrub component. Alkali sacaton in the bottomlands would, in the short term, increase in cover and composition but would then taper off in the long term, becoming decadent from the lack of standing vegetation removal by grazing.

Soils

Affected Environment

The Soil Conservation Service, now the Natural Resource Conservation Service (NRCS), has surveyed the soils in Lincoln County. Complete soil information is available in the Soil Survey of Lincoln County, New Mexico, (USDA Soil Conservation Service 1983) and online at <http://websoilsurvey.nrcs.usda.gov/app/>. The soil map units represented in the project area are:

Darvey Asparagus association, gently sloping, 0 to 5 percent slopes (8): Permeability of the Darvey soil is moderate. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil

blowing is high. Permeability of the Asparas soil is moderately slow. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is high.

Plack-Dioxice association, gently sloping 0 to 15 percent slopes (63): Permeability of the Plack soils is moderate. Runoff is rapid and the hazard of water erosion is high. The hazard of soil blowing is high. Permeability of the Dioxice soil is moderately slow. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is high.

Tortugas-Asparas Rock outcrop association, moderately sloping, 0 to 15 percent slopes (89): Permeability of the Tortugas oil is moderate. Runoff is rapid, and the hazard of water erosion is high. The hazard of soil blowing is slight. Permeability of the Asparas soil is moderately slow. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is high.

Environmental Impacts

Under the Proposed Action, livestock would remove some of the cover of standing vegetation and litter, and compact the soil by trampling. If livestock management were inadequate, these effects could be severe enough to reduce infiltration rates and increase runoff, leading to greater water erosion and soil losses (Moore et al. 1979, Stoddart et al. 1975). Producing forage and protecting the soil from further erosion would then be more difficult. The greatest impacts of removing vegetation and trampling would be expected in areas of concentrated livestock use, such as trails, waters, feeders, and shade.

Under the Proposed Action rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion. Low/moderate forage quality plants provide protection to the soils resource. Cumulative long term monitoring data reflect the soils are being adequately protected.

Under the No Grazing Alternative, any adverse impact from livestock grazing would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

Mitigation

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from wind erosion.

Watershed – Hydrology

Affected Environment

The watershed and hydrology in the area is affected by land and water use practices. The degree to which hydrologic processes are affected by land and water use depends on the location, extent, timing and the type of activity. Factors that currently cause short-lived alterations to the hydrologic regime in the area include livestock grazing management, recreational use activities, groundwater

pumping and also oil and gas developments such as well pads, permanent roads, temporary roads, pipelines, and powerlines.

Environmental Impacts

Livestock grazing management and range improvement projects can result in long term and short term alterations to the hydrologic regime. Peak flow and low flow of perennial streams, ephemeral, and intermittent rivers and streams would be directly affected by an increase in impervious surfaces resulting from the livestock grazing management and range improvement projects. The potential hydrologic effects to peak flow is reduced infiltration where surface flows can move more quickly to perennial or ephemeral rivers and streams, causing peak flow to occur earlier and to be larger. Increased magnitude and volume of peak flow can cause bank erosion, channel widening, downward incision, and disconnection from the floodplain. The potential hydrologic effects to low flow is reduced surface storage and groundwater recharge, resulting in reduced baseflow to perennial, ephemeral, and intermittent rivers and streams. The direct impact would be that hydrologic processes may be altered where the perennial, ephemeral, and intermittent river and stream system responds by changing physical parameters, such as channel configuration. These changes may in turn impact chemical parameters and ultimately the aquatic ecosystem.

Long-term direct and indirect impacts to the watershed and hydrology would continue for the life of the livestock grazing management and range improvement projects and would decrease once reclamation of the range improvement projects has taken place. Short term direct and indirect impacts to the watershed and hydrology from access roads that are not surfaced with material would occur and would likely decrease in time due to reclamation efforts.

Under the Proposed Action rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the hydrologic regime. Low/moderate forage quality plants provide protection to the soils resource and hydrologic regime. Cumulative long-term monitoring data reflect the hydrologic regime is being adequately protected.

Under the No Grazing Alternative, any adverse impact from livestock grazing management and range improvement projects would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

Mitigation

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from water erosion.

Water Quality

Affected Environment – Surface Water

No perennial surface water is found on the Public Land on this allotment. Ephemeral streams occur on Public Land on this allotment.

Environmental Impacts – Surface Water

Direct impacts to surface water quality would be minor, short-term impacts during stormflow. Indirect impacts to water-quality related resources, such as fisheries, would not occur.

Affected Environment - Ground Water

Depth to water data is not available for this allotment (New Mexico State Engineer 1995). Usable groundwater occurs in secs. 5, 16, 17 and 29 having a depth range from 425 ft. to 720 ft. The aquifers occur in sandstone, gravel and conglomerate. The water may be sourced in either the San Andres formation or the Quaternary Alluvial deposits which outcrop in the area of the allotment.

Environmental Impacts – Ground Water

The proposed action would not have a significant effect on ground water. Livestock would be dispersed over the allotment, and the soil would filter potential contaminants.

Under the Proposed Action rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect surface and groundwater. Low/moderate forage quality plants provide protection to the surface and groundwater. Cumulative long-term monitoring data reflect the surface and groundwater are being adequately protected.

Under the No-Grazing Alternative, any adverse impact from livestock grazing would be eliminated. However, it is possible that removing grazing animals from an area where they were a natural part of the landscape could result in poor use of precipitation and inefficient mineral cycling (Savory 1988). Bare soil could be sealed by raindrop impact, and vegetation could become decadent, inhibiting new growth. Therefore, the results of no grazing could be similar to those of overgrazing in some respects.

Mitigation

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Continued rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion.

Wildlife

Affected Environment

The range of wildlife habitat include open gently undulating grasslands, rolling limestone hills with shrubby species and various sizes of draws and swales that may also support large woody species such as hackberry and black walnut.

In general, the allotment provides a variety of habitat types for terrestrial wildlife species, including big game such as pronghorn antelope and desert mule deer. The diversity and abundance of wildlife species in the area is due to the presence of a mixture of grassland habitat and mixed desert shrub vegetation. The present distribution of pronghorn antelope varies within the area of analysis from the inability of pronghorn to move freely across their historical range. Movement patterns and distribution is affected by net-wire fences associated with sheep ranching. Re-introduction efforts are ongoing along with fence modifications on those allotments with cooperating allottees.

Numerous avian species use the area during spring and fall migration, including non-game migratory birds. Common bird species are mourning dove, mockingbird, white-crowned sparrow, black-throated sparrow, blue grosbeak, northern oriole, western meadowlark, Crissal thrasher, western kingbird, northern flicker, common nighthawk, loggerhead shrike, and roadrunner. Raptors include northern harrier, Swainson's hawk, American kestrel, and occasionally golden eagle and ferruginous hawk.

Common mammal species using the area include mule deer, pronghorn, coyote, gray fox, bobcat, striped skunk, porcupine, raccoon, badger, jackrabbit, cottontail, white-footed mouse, deer mouse, grasshopper mouse, kangaroo rat, spotted ground squirrel, and woodrat. A variety of herptiles also occur in the area such as yellow mud turtle, box turtle, eastern fence lizard, side-blotched lizard, horned lizard, whiptail, hognose snake, coachwhip, gopher snake, rattlesnake, and spadefoot toad.

Resident bats in the area are Townsend's Western Big-eared, Cave Myotis and Small-footed Bat. Many Roswell Field Office caves are identified or potential hibernation sites and are optimum sites for White Nose Syndrome (WNS) establishment. Any karst area north of Roswell is subject to this situation. The proposed action area is about 200 miles southwest of a confirmed WNS location near Guymon, Oklahoma. White Nose Syndrome was first documented on hibernating bats at Howe caverns in 2006 in New York and by March of 2013 it had moved over 2,000 miles across twenty-two eastern and southern states, and five Canadian provinces, and had killed well over 10 million bats. By spring of 2010, White Nose Syndrome (WNS) had been found near Guymon, Oklahoma on cave myotis (*Myotis velifer incautus*), the first evidence of it infecting a western bat species. Infection is definitely bat-to-bat and humans are suspected of transporting the spores. http://www.blm.gov/nm/st/en/prog/more/wildlife/white-nose_syndrome.html

Environmental Impacts & Bat Mitigation

Under the Proposed Action, livestock grazing management and range improvement projects designed with consideration for wildlife would generally enhance the quality of wildlife habitat. Vegetation condition, forage production, and habitat diversity would improve, and wildlife species distribution and abundance would increase. The construction of livestock waters in previously

unwatered areas would promote increased wildlife distribution and abundance, but may potentially increase grazing pressure in those same areas. Short-term impacts of range improvement projects would be the temporary displacement of wildlife species during construction activities.

Under the No Grazing Alternative, there would no longer be direct competition between livestock and wildlife for forage, browse and cover. Wildlife habitat would moderately improve. The limitation for improvement would continue to be the existing invading species component (e.g., mesquite, snakeweed) affecting plant composition. Since livestock grazing would not be permitted, range improvement projects that benefit wildlife, such as water developments, would be abandoned. New range improvement projects that would also benefit wildlife habitat, such as brush control, may not be implemented because these projects are primarily driven and funded through range improvement efforts.

Pursuant to Federal Register notices, all known Roswell Field Office hibernacula are temporarily closed to public entry from January 25, 2011 to no later than January 25, 2015 to monitor for the presence of White Nose Syndrome and prevent its spread if it arrives. Any proposed entry whatsoever of these caves must be formally proposed to BLM.

Special Status Species, Including Threatened and Endangered Species

Federally Listed Threatened/Endangered Species:

Affected Environment

Livestock grazing as a result of the grazing permit, may affect, but not likely adversely affect the bald eagle. With this determination, consultation with the US Fish and Wildlife Service is not required. It is expected that habitat and range condition would be maintained or improved by authorizing grazing conducive with vegetation production goals. Habitat for wintering bald eagles would not have significant negative impacts by livestock grazing since there is no presence of riparian habitats nearby, and no active or suitable nesting habitat. Positive impacts may result to the bald eagle from the proposed action by increasing the amount of carrion during the late winter and early spring on sheep allotments in the vicinity.

Surveys have been conducted in New Mexico for the mountain plover in 1995, for the New Mexico Department of Game and Fish. No known breeding populations or wintering locales were found in the Roswell Field Office area. In addition, mountain plover surveys were conducted in 1998 at BLM selected sites by New Mexico Natural Heritage Program. No mountain plovers were observed at the sites.

As mountain plovers prefer short vegetation and actually seek out grazed pastures, the cumulative impacts from grazing are not anticipated to adversely affect the bird. Grazing practices which maintain or improve ground cover to the greatest extent possible could decrease mountain plover habitat. The preferred alternative will continue to emphasize proper watershed management, but is unlikely to adversely affect this species or its habitat in the mixed desert shrub area.

Since no known wintering locales or breeding sites have been found and no known prairie dog towns are located within this allotment, proper grazing management is not likely to jeopardize, destroy or

adversely modify the habitat for the mountain plover or the black-tailed prairie dog (the mountain plover and black-tailed prairie dog has been removed from the listing).

While none of the bat species are threatened or endangered, the Townsend's Western Big-eared Bat is a BLM *species of concern*.

Environmental Impacts

Under any of the alternatives, there would be no change to habitat of special status species.

Air Quality

Affected Environment

The Environmental Protection Agency (EPA) has the primary responsibility for regulating air quality, including seven nationally regulated ambient air pollutants. Regulation of air quality is also delegated to some states. Air quality is determined by atmospheric pollutants and chemistry, dispersion meteorology and terrain, and also includes applications of noise, smoke management, and visibility.

The area around the allotment is considered a Class II air quality area. A Class II area allows moderate amounts of air quality degradation. The primary sources of air pollution are dust from blowing wind on disturbed or exposed soil and exhaust emissions from motorized equipment. Air quality in the area is generally good and is not located in any of the areas designated by the Environmental Protection Agency as "non-attainment areas" for any listed pollutants regulated by the Clean Air Act.

The allotments are in a Class II area for the Prevention of Significant Deterioration of air quality as defined by the federal Clean Air Act. Class II areas allow a moderate amount of air quality degradation. Air quality in the region is generally good, with winds averaging 10-16 miles per hour depending on the season. Peak velocities reach more than 50 miles per hour in the spring. These conditions rapidly disperse air pollutants in the region.

Environmental Impacts

Air quality would temporarily be directly impacted with pollution from enteric fermentation (ruminant livestock), chemical odors, and dust. Dust levels resulting from allotment management activities would be slightly higher under the Proposed Action or No Action alternative, than the No Grazing Alternative. The cumulative impact on air quality from the allotment would be negligible compared to all pollution sources in the region.

The federal Clean Air Act requires that air pollutant emissions be controlled from all significant sources in areas that do not meet the National Ambient Air Quality Standard (NAAQS). The New Mexico Air Quality Bureau (NMAQB) is responsible for enforcing the state and national ambient air quality standards in New Mexico. Any emission source must comply with the NMAQB regulations (USDI, BLM 2003b). At the present time, the counties that lie within the jurisdictional boundaries of the Roswell Field Office are classified as in attainment of all state and national ambient air quality standards as defined in the Clean Air Act of 1972, as amended (USDI, BLM 2003b).

The Environmental Protection Agency (EPA), on October 17, 2006, issued a final ruling on the lowering of the NAAQS for particulate matter ranging from 2.5 micron or smaller particle size. This ruling became effective on December 18, 2006, stating that the 24-hour standard for PM_{2.5}, was lowered to 35 ug/m³ from the previous standard of 65 ug/m³. This revised PM_{2.5} daily NAAQS was promulgated to better protect the public from short-term particle exposure. The significant threshold of 35 ug/m³ daily PM_{2.5} NAAQS is not expected to be exceeded under the proposed action.

Climate

Affected Environment

Climate is the composite of generally prevailing weather conditions of a particular region throughout the year, averaged over a series of years. Greenhouse gases (GHGs), including carbon dioxide (CO₂) and methane (CH₄), and the potential effects of GHG emissions on climate are not regulated by the EPA under the Clean Air Act. However, climate has the potential to influence renewable and non-renewable resource management. The EPA's Inventory of US Greenhouse Gas Emissions and Sinks found that in 2006, total US GHG emissions were over 6 billion metric tons and that total US GHG emissions have increased by 14.1% from 1990 to 2006. The report also noted that GHG emissions fell by 1.5% from 2005 to 2006. This decrease was, in part, attributed to the increased use of natural gas and other alternatives to burning coal in electric power generation. The levels of these GHGs are expected to continue increasing. The rate of increase is expected to slow as greater awareness of the potential environmental and economic costs associated with increased levels of GHGs result in behavioral and industrial adaptations.

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, observations and predictive models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHGs are likely to accelerate the rate of climate change.

In 2001, the Intergovernmental Panel on Climate Change (IPCC) predicted that by the year 2100, global average surface temperatures would increase 1.4 to 5.8°C (2.5 to 10.4°F) above 1990 levels. The National Academy of Sciences (2006) supports these predictions, but has acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures is more likely than increases in daily maximum temperatures.

A 2007 US Government Accountability Office (GAO) Report on Climate Change found that, "federal land and water resources are vulnerable to a wide range of effects from climate change, some of which are already occurring. These effects include, among others: 1) physical effects such as droughts, floods, glacial melting, and sea level rise; 2) biological effects, such as increases in insect and disease infestations, shifts in species distribution, and changes in the timing of natural events; and 3) economic and social effects, such as adverse impacts on tourism, infrastructure,

fishing, and other resource uses." It is not, however, possible to predict with any certainty regional or site specific effects on climate relative to the proposed lease parcels and subsequent actions.

In New Mexico, a recent study indicated that the mean annual temperatures have exceeded the global averages by nearly 50% since the 1970's (Enquist and Gori). Similar to trends in national data, increases in mean winter temperatures in the southwest have contributed to this rise. When compared to baseline information, periods between 1991 and 2005 show temperature increases in over 95% of the geographical area of New Mexico. Warming is greatest in the northwestern, central, and southwestern parts of the state.

Environmental Impacts

Climate change analyses are comprised of several factors, including greenhouse gases (GHGs), land use management practices, the albino effect, etc. The tools necessary to quantify climatic impacts from the Proposed or No Action Alternatives are presently unavailable. As a consequence, impact assessment of specific effects of anthropogenic activities cannot be determined. Additionally, specific levels of significance have not yet been established. Therefore, climate change analysis for the purpose of this document is limited to accounting and disclosing of factors that may contribute to climate change. Qualitative and/or quantitative evaluation of potential contributing factors within the planning area is included where appropriate and practicable.

Mitigation

A rangeland health assessment has been completed and the allotment meets the Standards for Public Land Health. Rangeland monitoring would help ensure that adequate vegetation cover is maintained to protect the soil from erosion which would decrease dust levels resulting from allotment management activities.

Livestock Management

Affected Environment

In the past, this allotment has been permitted to be grazed yearlong by cattle, with only enough horses required to work stock. Grazing is by a cow/calf operation.

Allot Number	Allotment Name	Acres of Public Land	Percent Public Land	Animal Units Authorized	Animal Unit Months Authorized	Permitted Animal Units	Permitted Animal Unit Months
63087	Erramouspe	400	100	6	72	6	72
63187	Youngblood Well	120	100	2	24	2	24

The Erramouspe allotment contains about 21,654 total acres (see Location Map). Landownership consists of approximately 17,405 acres of private land, 3,840 acres of state land, and 400 acres of federal land. Current range improvement projects for the management of livestock include earthen tanks, wells, and several drinking troughs with associated pipelines, pasture and boundary fences and corrals.

The Youngblood Well allotment contains about 7,320 total acres (see Location Map). Landownership consists of approximately 6,880 acres of private land, 320 acres of state land, and 120 acres of federal land. Current range improvement projects for the management of livestock include earthen tanks, wells, and several drinking troughs with associated pipelines, pasture and boundary fences and corrals.

Environmental Impacts

Under the Proposed Action, livestock would continue to graze public lands within the allotments. Existing pasture configurations and water developments would remain the same. Livestock management would still follow the single-herd rotation system.

Under the No Grazing Alternative, there would be no livestock grazing authorized on public lands. The public lands would have to be fenced apart from the private lands or livestock would be considered in trespass if found grazing on public land (43 CFR 4140.1(b)(1)). Exclusion of livestock from the public land would require approximately many miles of new fence at an approximate cost of \$4,500/mile. This expense would be borne by the private landowner. Range improvements on public land would not be maintained and the BLM would have to compensate the permittee if any of the improvements were cost shared at the time of their authorization. The overall livestock operation could be reduced (those attached to the public lands) to approximately 0 AUMs. This would have an adverse economic impact on the permittee.

Cumulative impacts of the grazing and no grazing alternatives were analyzed in Rangeland Reform '94 Draft Environmental Impact Statement (BLM and USDA Forest Service 1994) and in the Roswell Resource Area Draft RMP/EIS (BLM 1994). The no livestock grazing alternative was not selected in either document.

Visual Resource Management

Affected Environment

The setting presents a winter gray color pattern and in warm months, with foliage, a gray to gray-green color pattern. Wide-area landscape tends to be horizontal in line and flat in form, with a smooth texture. The allotments are in a Class IV area for visual resources management. The proposed actions are located within a designated VRM Class IV area. The objective of Class IV is to: "Provide for management activities which require major modification of the existing landscape character...Every attempt, however, should be made to reduce or eliminate activity impacts through careful location, minimal disturbance, and repeating the basic landscape elements."

Environmental Impacts

The basic landscape elements of form, line color and texture would not change within the allotments under any management alternative. Potential impacts to visual resources would be analyzed and mitigated as allotment management activities are proposed in the future.

Mitigation

Range facilities such as windmills and fences tend to be a translucent grey in color and blend favorably with grey and grey-green settings. To further blend favorably with the setting tanks would be low profile, not exceeding 8 feet high, and painted a flat grey or grey-green color. Other translucent colors, such as juniper green and brown can be used, as long as they blend with the setting.

Recreation

Affected Environment

The allotment provides habitat for numerous game species including desert mule deer, pronghorn, mourning dove and scaled quail. Predator and feral pig hunting may occur on the allotment, as well as trapping for predators or furbearers. General sightseeing, wildlife viewing and photography are non-consumptive recreational activities that may occur. OHV use is restricted to designated roads and approved routes.

Environmental Impacts

Game and non-game wildlife species could realize long-term benefits through the improvement of habitat. It is possible that hunter success and wildlife viewing opportunities would be enhanced. Under the No Grazing Alternative, no conflicts between ranching activities and recreational use would occur on public lands. Success of hunts and non-consumptive opportunities would remain the same or slightly improve. Vandalism could still occur to range improvements. Potential conflicts with OHV use would continue.

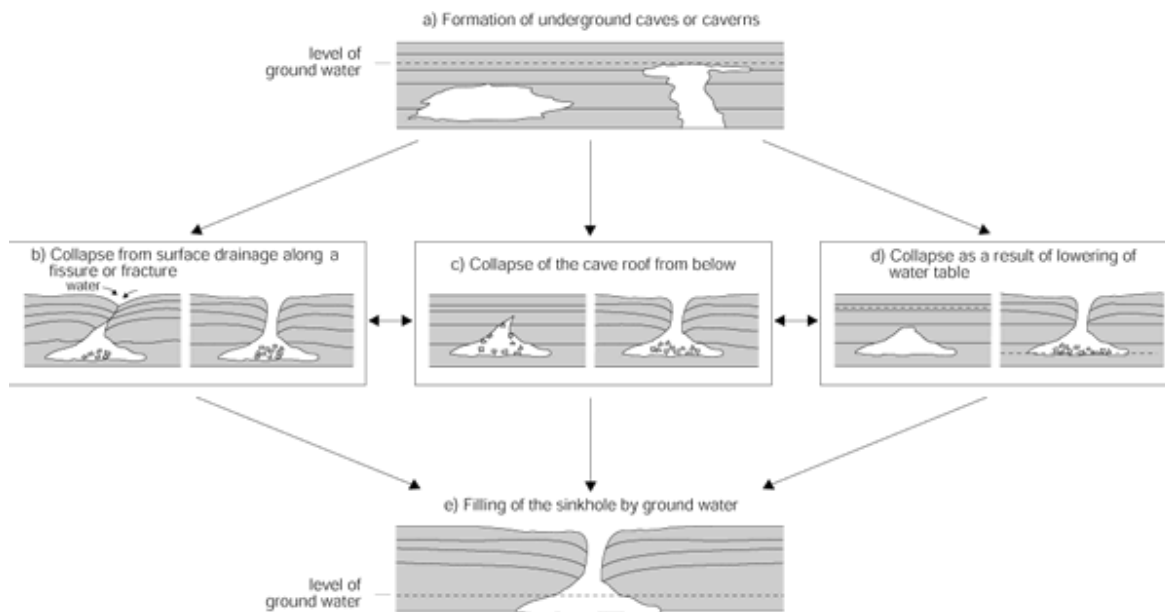
Cave and Karst

Affected Environment

This allotment is located within a designated area of *High Cave Karst Potential*. A cave or karst inventory has not been completed for the public land located in this grazing allotment. There are numerous sinkholes documented in this area. Karst features are derived from dissolved limestone and gypsum from which caves and sinkholes can form, under the definition of caves in the Federal Cave Resource Protection Act of 1988.

Environmental Consequences

Livestock grazing could be affected by the presence of karst features if livestock became entrapped in deep sinkholes, which has occurred with sheep grazing in the proposed action area. This could be prevented by creating exclosures around identified karst features that pose a hazard to livestock. In the event that range improvement projects are proposed, the presence of karst features would be further analyzed in related environmental assessments.



Sinkhole Development (http://geoinfo.nmt.edu/tour/state/bottomless_lakes/home.html)

Mitigation

- *A separate Environmental Analysis would be prepared to construct an exclosure fence.
- *In the event that range improvement projects are proposed, the presence of karst features would be further analyzed in related environmental assessments.
- *If at a later date, more significant caves or karst features are found on public land within the allotment, that cave or feature may be fenced to exclude livestock grazing and Off Highway Vehicle Use.
- *Any cave or karst feature, such as a deep sinkhole, discovered by the co-operator/contractor or any person working on the co-operator's/contractor behalf, on BLM-managed public land shall be immediately reported to the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate action(s). Any decision as to the further mitigation measures will be made by the Authorized Officer after consulting with the co-operator/contractor.

*Pursuant to Federal Register notices, all known Roswell Field Office hibernacula are temporarily closed to public entry from January 25, 2011 to no later than January 25, 2015 to monitor for the presence of White Nose Syndrome and prevent its spread if it arrives. Any proposed entry whatsoever of these caves must be formally proposed to BLM.

Cultural Resources

Affected Environment

The project falls within the Southeastern New Mexico Archaeological Region. This region contains the following cultural/temporal periods: Paleoindian (ca. 12,000-8,000 B.C.), Archaic (ca. 8000 B.C. –A.D. 950), Ceramic (ca. A.D. 600-1540) Protohistoric and Spanish Colonial (ca. A.D. 1400-1821), and Mexican and American Historical (ca. A.D. 1822 to early 20th century). Sites representing any or all of these periods are known to occur within the region. A more complete discussion can be found in *Living on the Land: 11,000 Years of Human Adaptation in Southeastern New Mexico An Overview of Cultural Resources in the Roswell District*, Bureau of Land Management published in 1989 by the U.S. Department of the Interior, Bureau of Land Management.

Concerning cultural resources, grazing has the potential for impacts. The Roswell Field Office reviews the local office and NMCRIS databases for every grazing permit or leasing action at all levels of NEPA. In situations where sensitive sites lie within an allotment, site specific visits may be conducted to assess the presence of effects.

Environmental Consequences

Three surveys and eight sites have been reported in this allotment. Currently, there is no evidence that grazing activities at this intensity have adversely impacted any cultural resources; however, unforeseen impacts may occur.

Mitigation

Any future range improvement involving earth disturbing activities will require a cultural inventory prior to approval.

Native American Religious Concerns

Native American groups may have places that can be described as Traditional Cultural Properties or other places that are important to their religions or cultures. The BLM uses the New Mexico Department of Cultural Affairs list of tribes/nations/pueblos concerned for individual counties to determine which of these groups may have concerns for projects. To date, the areas to be affected by the current project have not been identified by interested tribes as being of tribal concern.

Environmental Consequences

The BLM conducts tribal consultation for many small projects while preparing planning documents such as the Resource Management Plan and Resource Management Plan Addendums. A review of existing information indicates the proposed action is outside any known Traditional Cultural Property.

Paleontology

Affected Environment

The BLM manages paleontological resources for their scientific, educational, and recreational values in compliance with the Paleontological Resources Preservation Act (PRPA) of 2009. The PRPA affirms the authority for many of the policies the Federal land managing agencies already have in place for the management of paleontological resources such as issuing permits for collecting paleontological resources, curation of paleontological resources, and confidentiality of locality data. The statute provides authority for the protection of paleontological resources on Federal lands including criminal and civil penalties for fossil theft and vandalism.

The BLM classifies geologic formations to indicate the likelihood of significant fossil occurrence (usually vertebrate fossils of scientific interest) according to the Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands (IM 2008-011). These classifications, Classes 1 to 5, determine the procedures to be followed prior to granting a paleontological clearance to proceed with a project.

Mitigation

Protection of paleontological resources may include, but are not limited to, altering the location or scope of the project, permanent fencing or other physical, temporary barriers, monitoring of earth disturbing construction, project area reduction or specific construction avoidance zones, and fossil recovery. If the assessment of a proposed action indicates a reasonable expectation of adverse impacts to significant paleontological resources, a field survey will be necessary to properly document and recover any fossil material and associated data. Upon review, a determination for final project clearance and stipulations shall be issued by the BLM RFO.

Public Health and Safety

The project will not be detrimental to the public health. The co-operator/contractor will insure that all phases of the project operations are conducted in a workman like manner. Precautionary procedures and/or measures will be strictly adhered to in order provide a safe and sound working environment.

IV. CUMULATIVE IMPACTS

A cumulative impact is defined in 40 CFR 1508.7 as:

“the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

The incremental impact of issuing a grazing permit on these resources must be analyzed in the context of impacts from other actions. Other BLM actions that could have impacts on the identified

resources include: livestock authorization on other allotments in this area; oil and gas activities on the uplands; rights-of way crossing the area; and recreation use, particularly off-highway vehicles. All authorized activities which occur on BLM land can also take place on state and private land.

Many of the actions which could contribute to cumulative impacts have occurred over many years. Impacts from open-range livestock grazing in the last century are still being addressed today. Oil and gas activities began in the early part of the 20th century. These activities are still occurring today, and are expected to continue into the foreseeable future to some degree.

The analysis of cumulative impacts is driven by major resource issues. The proposed action is the authorization of livestock grazing on these allotments. The cumulative impacts to these allotments and adjacent allotments are insignificant.

The Proposed Action would not add incrementally to the cumulative impacts to threatened and endangered species, or to water quality. The conclusions, that impacts to these resources, from grazing authorization would not be significant are discussed in detail in Section III of the EA.

The No Action Alternative is the same as the Proposed Action.

If the No Grazing Alternative were chosen, some adverse cumulative impacts would be eliminated, but others would occur. Grazing would no longer be available as a vegetation management tool, and BLM lands within the allotment would be less intensively managed.

While global and national inventories of GHG are established, regional and state-specific inventories are in varying levels of development. Quantification techniques are in development – for example, there is a good understanding of climate change emissions related to fuel usage; however measuring and understanding the effects are less comprehensive. Analytical tools necessary to quantify climatic impacts are presently unavailable. As a consequence, impact assessment of specific effects of anthropogenic activities cannot be determined.

Due to the absence of regulatory requirements to measure GHG emissions it is not possible to accurately quantify potential GHG emissions in the affected areas as a result of renewing grazing permits. Some general assumptions however can be made: livestock, operating vehicles to support livestock grazing, and vehicles transporting livestock contribute to GHG emissions.

The New Mexico Greenhouse Gas Inventory and Reference Case Projection 1990-2020 (Inventory) states agricultural activities, including manure management, fertilizer use and livestock account for 7% of New Mexico's total GHG emissions. The Inventory estimates approximately 6.4 million metric tons GHG emissions are projected by 2010 from all agricultural activities in the state. The Inventory states that GHG emissions from livestock, agriculture soil management and field burning were about 6.2 MMT of CO₂ equivalent in 2004. The Inventory makes the assumption that dairy cattle production will grow at the same rate as the general population and there will be no growth in the other categories within agriculture.

The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts. However, potential impacts to natural resources and plant and animal species due to climate change are likely to be varied, including those in the southwestern United States. For example, if global climate change results in a warmer and drier climate, increased

particulate matter impacts could occur due to increased windblown dust from drier and less stable soils. Cool season plant species' spatial ranges are predicted to move north and to higher elevations, and extinction of endemic threatened/endangered plants may be accelerated.

Due to loss of habitat or competition from other species whose ranges may shift northward, the population of some animal species may be reduced or increased. Less snow at lower elevations would likely impact the timing and quantity of snowmelt, which, in turn, could impact water resources and species dependent on historic water conditions. Forests at higher elevations in New Mexico, for example, have been exposed to warmer and drier conditions over a ten year period. Should the trend continue, the habitats and identified drought sensitive species in these forested areas and higher elevations may also be more affected by climate change.

V. MITIGATION MEASURES

Vegetation monitoring studies will continue if a new grazing permit were issued under the Proposed Action. Changes to livestock management would be made if monitoring data showed adverse impacts to the vegetation.

If new information surfaces that livestock grazing is negatively impacting other resources, action will be taken at that time to mitigate those impacts.

Any cave or karst feature, such as a deep sinkhole discovered by the co-operator/contractor or any person working on the cooperator's/contractor behalf, on public or Federal land would be immediately reported to the authorized officer. An evaluation of the discovery would be made by the authorized officer to determine appropriate action(s). Any decision as to the proper mitigation measures would be made by the Authorized Officer after consulting with the co-operator/contractor.

VI. RESIDUAL IMPACTS

Residual impacts are direct, indirect, or cumulative impacts that would remain after applying the mitigation measures. Residual impacts following authorization of livestock grazing would be insignificant if the mitigation measures are properly applied.

VII. SOCIO-ECONOMIC FACTORS

The proposed action or No action, as outlined in this document, are not anticipated to alter the socio-economic conditions for either the permittee or Lincoln County. Should the no livestock grazing alternative be adopted, economic impacts would occur. Lincoln County would lose tax revenues on cattle grazing annually.

Under the no livestock grazing alternative, it would be the responsibility of the permittees to prevent livestock from grazing on the public lands. To accomplish this, the permittees would most likely have to construct fences to exclude the public land. Approximately 39 miles of new fence would be needed at a cost of approximately \$468,000 (\$12,000/mile). BLM would also have to provide compensation to the permittees for their interest in authorized range improvements due to the exclusion of livestock grazing. These costs could be reduced or mitigated by land exchanges with either the state or the permittees to block up the public land.

IX. BLM TEAM MEMBERS

Emily Peterson - Rangeland Management Specialist
Kyle Arnold - Rangeland Management Specialist
Adam Ortega – Rangeland Management Specialist
Helen Miller – Rangeland Management Specialist
Mike McGee - Hydrologist
Jeremy Iliff– Archaeologist
Glen Garnand – Environmental Coordinator
Chris Brown – Outdoor Recreation Planner
Dan Baggao – Wildlife Biologist
Mike Bilbo – Cave Specialist
Vanessa Bussell – Realty Specialist

X. PERSONS AND AGENCIES CONSULTED

Permittees of allotments 63087 & 63187

New Mexico Department of Game and Fish
New Mexico Energy, Minerals, and Natural Resources Department - Forestry and Resource Conservation Division
New Mexico Environment Department - Surface Water Quality Bureau
New Mexico State Land Office
U.S. Fish and Wildlife Service - Ecological Services
U.S. Fish and Wildlife Service - Fishery Resources Office

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Bureau of Land Management, Roswell Field Office
Environmental Assessment Checklist, DOI-BLM-NM-P010-2013-77-EA

Resources	Not Present on Site	No Impacts	May Be Impacts	Mitigation Included	BLM Reviewer	Date
<u>Air Quality</u>			X	X	Hydrologist /s/ Michael McGee	6/18/2013
Soils			X	X		
Watershed Hydrology			X	X		
Floodplains			X	X		
Water Quality - Surface			X	X		
Water Quality - Ground			X	X	Hydrologist /s/ Michael McGee	6/18/2013
Cultural Resources			X	X	/s/ Jeremy Iliff Archaeologist	7/11/2013
Native American Religious Concerns		X				
Paleontology			X	X	/s/ Al Collar Geologist	7/16/2013
Areas of Critical Environmental Concern	X				/s/Glen Garnand Environ & Plan	7/23/2013
Farmlands, Prime or Unique	X				/s/Tate Salas Realty	7/17/2013
Rights-of-Way		X				
Invasive, Non-native Species	X				/s/ Helen Miller Range Management Specialist	06/28/2013
Vegetation			X	X		
Livestock Grazing			X	X		
Wastes, Hazardous or Solid		X			/s/ Al Collar geologist	7/16/2013
Threatened or Endangered Species	X				/s/ D Baggao Wildlife	7/17/2013
Special Status Species	X					
Wildlife			X	X		
Wetlands/Riparian Zones	X					
Wild and Scenic Rivers	X				/s/ Michael J. Bilbo Recreation, VRM, Karst	7/11/2013
Wilderness	X					
Recreation		X				
Visual Resources			X	X		
Cave/Karst			X	X		
Environmental Justice		X			/s/ Al Collar Geologist	7/16/2013
Public Health and Safety		X				
Solid Mineral Resources		X			/s/ John S. Simitz Geologist	June 11, 2013
Fluid Mineral Resources		X			/s/ John S. Simitz Geologist	June 11, 2013